



PATENT CUSTOMER NUMBER 22,852  
Attorney Docket No. 09877.0189

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE  
BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	)	
	)	
Giacomo Stefano Roba <i>et al.</i>	)	Group Art Unit: 1791
	)	
Application No.: 09/986,622	)	Examiner: John M. Hoffman
	)	
Filed: November 9, 2001	)	
	)	
For: METHOD AND INDUCTION	)	Confirmation No.: 5933
FURNACE FOR DRAWING	)	
LARGE DIAMETER PREFORMS	)	
TO OPTICAL FIBRES	)	

MAIL STOP APPEAL BRIEF – PATENTS  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**REPLY BRIEF UNDER 37 C.F.R. § 41.41**

Pursuant to 37 C.F.R. § 1.193, Appellant submits this Reply Brief under 37 C.F.R. § 41.41 to the Board of Patent Appeals and Interferences ("the Board"), in response to the April 28, 2009 Examiner's Answer ("Examiner's Answer") in this case.

**I. Grounds of Rejection and Response to Argument**

In sections titled “(9) Grounds of Rejection” and “(10) Response to Argument,” the Examiner makes a number of allegations concerning the claims and/or the prior art to which Appellant takes this opportunity to respond. The “Grounds of Rejection” section is found at pages 4-13 of the Examiner’s Answer, and the “Response to Argument” section is at pages 14-20.

**A. Claims Rejections Under 35 U.S.C. § 112, ¶ 2**

In the Examiner’s Answer, the Examiner maintains the rejection of claims 61-69 under 35 U.S.C. § 112, ¶ 2, as being indefinite. Specifically, the Examiner objects to the term “angled path” as recited in claim 61 for the reasons quoted below.

1) The paths 152 seem to be a flow of gas (“flow of condition gas 152”, figures (4 and 5), however, the moving gas is generally not structure - and yet claim 61 requires the distributor body has the paths.

2) 111, 107 and 103 at best only define an upper and lower limit of a part of the paths shown in the drawings. One cannot reasonable ascertain whether the claimed “path” can be unbounded path that gas can flow, or whether they are limited to paths that are bounded/defined by structure.<sup>1</sup>

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<sup>1</sup> In the Final Office Action of August 15, 2008, the Examiner also rejected claims 61-69 under § 112, ¶ 2, based on his contention that “[w]hereas the specification states the paths are ‘annular’, the drawings fails to confirm such.” Final Office Action at 2. In the Examiner’s Answer, the Examiner indicated that “this rationale is no longer being maintained by the Examiner.” Examiner’s Answer at 14.

Examiner's Answer at 6. For at least the reasons discussed below, Appellant respectfully submits that the § 112, ¶ 2, rejection of claims 61-69 is improper and should be reversed.

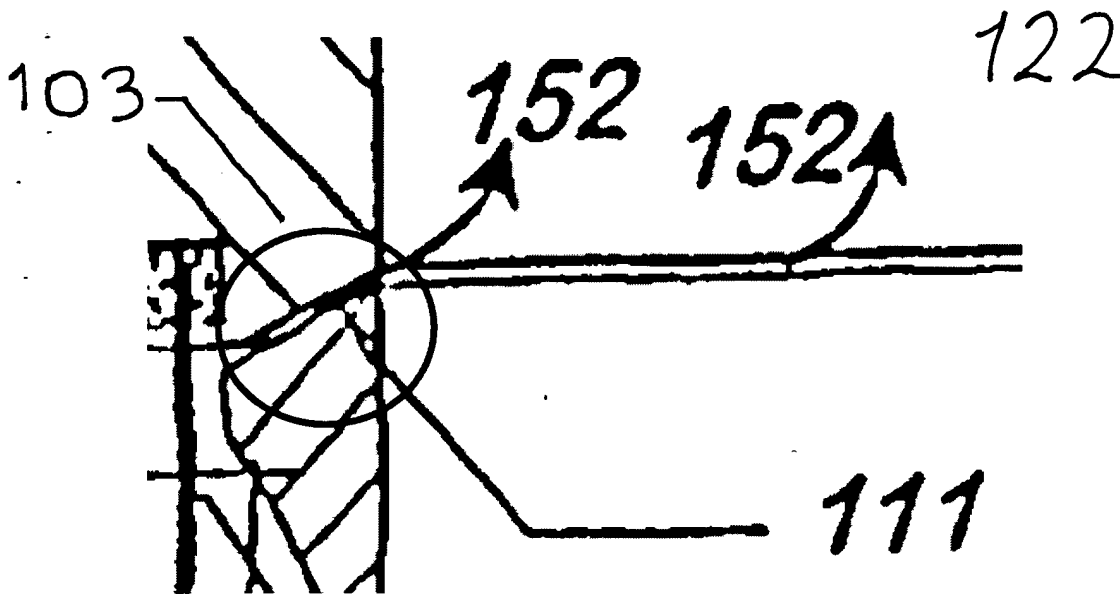
**1. The Specification Indicates that the “Upwardly Angled Path” Is Defined by Structure**

35 U.S.C. § 112, ¶ 2, requires that “[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” The Manual of Patent Examining Procedure states that “[t]he essential inquiry pertaining to this requirement is whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity.” MPEP § 2173.02. The MPEP cautions that a rejection under § 112, ¶ 2, is not appropriate simply because the Examiner does not think the claim language is not as precise as the Examiner might desire: “[s]ome latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as the examiner might desire.” *Id.* Indeed, “if the language used by applicant satisfies the statutory requirements of 35 U.S.C. 112, second paragraph, but the examiner merely wants the applicant to improve the clarity or precision of the language used, the claim must not be rejected under 35 U.S.C. 112, second paragraph . . . .” *Id.*

Claim 61 recites, among other things, “a distributor body . . . , the distributor body including . . . at least one upwardly angled path to direct a second portion of the conditioning gas to an upper portion of the substantially annular distribution chamber to create a buffer of conditioning gas having a pressure higher than a pressure outside the drawing furnace.” Thus, the express language of claim 61 indicates that the recited

“upwardly angled path” is part of a “distributor body”—a structural element. Accordingly, it is clear from the claim language that the “upwardly angled path” recited in claim 61 is defined by structure.

The specification also shows that the distributor body includes an upwardly angled path that is structural in nature: “distribution ring 107 may also be conical shaped on its upper surface so that a small amount of conditioning gas can flow through the upward-angled annular path 152, defined by upper surface 111 of distribution ring 107 and distributor casing top 103, into chamber 122.” Spec. at 31, ll. 7-12 (emphasis added). This is illustrated in the excerpt from Figure 4 below.



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In the Examiner's Answer, the Examiner does not dispute that the claim language indicates that the recited “upwardly angled path” is part of the distributor body.

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<sup>2</sup> For clarity, Appellant has added reference numbers 103 and 122 to the excerpt. Reference numbers 103 and 122 are present in Fig. 4 but are not visible in the excerpt without addition thereto.

To the contrary, the Examiner again appears to acknowledge that the claim language uses the term “upwardly angled path” to refer to a structural element. Examiner’s Answer at 14. Instead, the Examiner’s rejection appears to be based on his contention that the specification uses the term path to refer not just to the structural path defined by the distributor body, but also to refer to a flow of gas: “The drawings show that the path(s) 152 has a significant portion which is not defined by structure; it curves upward.” *Id.* at 15.

But because the claim language is clear that the recited “upwardly angled path” is a structural element defined by the distributor body, it is clear to one of ordinary skill in the art that the claim term “upwardly angled path” does not refer simply to a “flow of gas.” Thus, it is irrelevant whether the specification uses the term “path” to refer both to the upwardly angled path defined by the distributor body and the flow of gas after it leaves the distributor body and enters the chamber 122. While the specification may use the term “path” to refer to the flow of gas after it leaves the distributor body, that “path” is not what is recited in claim 61 because that flow would not be a structural component of the distributor body.

Because one of ordinary skill in the art would understand from the express claim language that the “upwardly angled path” is a structural element defined by the distributor body, the claims define the recited subject matter with a “reasonable degree of particularity and distinctness,” thereby satisfying § 112, ¶ 2. To the extent the Examiner believes that different claim language would have described the claimed subject matter with better clarity, the proper course was not to reject the claim under §

112, ¶ 2, but “rather, the examiner should [have] suggest[ed] improved language to the applicant.” *Id.*

For at least the above-outlined reasons, the subject matter recited in claim 61 particularly points out and distinctly claims the subject matter which the Appellant regards as the invention. Appellant therefore respectfully requests that the Board reverse the improper claim rejection under 35 U.S.C. § 112, ¶ 2.

**2. One of Ordinary Skill in the Art Would Not Be Confused as to Whether the “Upwardly Angled Path” Can Be Unbounded**

The Examiner asserts that the term “upwardly angled path” is indefinite because “[o]ne cannot reasonable ascertain whether the claimed ‘path’ can be an unbounded path that gas can flow, or whether they are limited to paths that are bounded/defined by structure.” Examiner’s Answer at 6. As discussed above in Sections (VII)(A)(1) and (3) of Appellant’s Appeal Brief, the claims and specification are clear that the “upwardly angled path” recited in claim 61 is defined by structure.

In response to Appellant’s arguments, the Examiner asserts that “[t]he drawings show that the path(s) 152 has a significant portion which is not defined by structure; it curves upward.” Examiner’s Answer at 15. But as discussed above in Section I(A)(1), the express language of claim 61 is clear that the “upwardly angled path” recited in claim 61 is a structural element defined by the distributor body. Thus, the recited “upwardly angled path” is not satisfied by a “completely unbounded” path, as the Examiner suggests. While the specification may also use the term “path” to refer to a flow of gas after it leaves the distribution body and enters a chamber (e.g., chamber 122

in Figure 4), such a completely unbounded “flow” would not satisfy the “upwardly angled path” element of claim 61 because it would not be defined by the distributor body.

In light of those positions already of record, and the further explanation offered herein, Appellant respectfully submits that the Board should reverse the improper rejection of claims 61-69 under 35 U.S.C. § 112, ¶ 2.

**B. Rejection of the Claims Under 35 U.S.C. §103(a)**

In the Examiner’s Answer, the Examiner maintains the rejection of claims 51-69 as purportedly being obvious over U.S. Patent Application No. 2002/0029591 (“Dickinson”) (or U.S. Patent No. 5,284,499 (“Harvey”)) in view of JP 08091862 (“Kazuya”), U.S. Patent No. 5,160,359 (“Strackenbrock”), U.S. Patent No. 4,988,374 (“Harding”), and U.S. Patent No. 4,547,644 (“Bair”), and optionally in view of U.S. Patent No. 4,030,901 (“Kaiser”).

**1. Rejection of Claims 51-60 Under § 103(a)**

Claim 51 recites, among other things,

a distributor body having a substantially annular distribution chamber, a distribution ring, and an outlet in fluid communication with an interior of the muffle...the distribution ring being adapted to uniformly introduce and forcedly direct a first portion of the conditioning gas into the muffle in a downward direction towards said furnace body and to direct a second portion of the conditioning gas to an upper portion of the substantially annular distribution chamber to create a buffer of conditioning gas having a pressure higher than a pressure outside the drawing furnace.

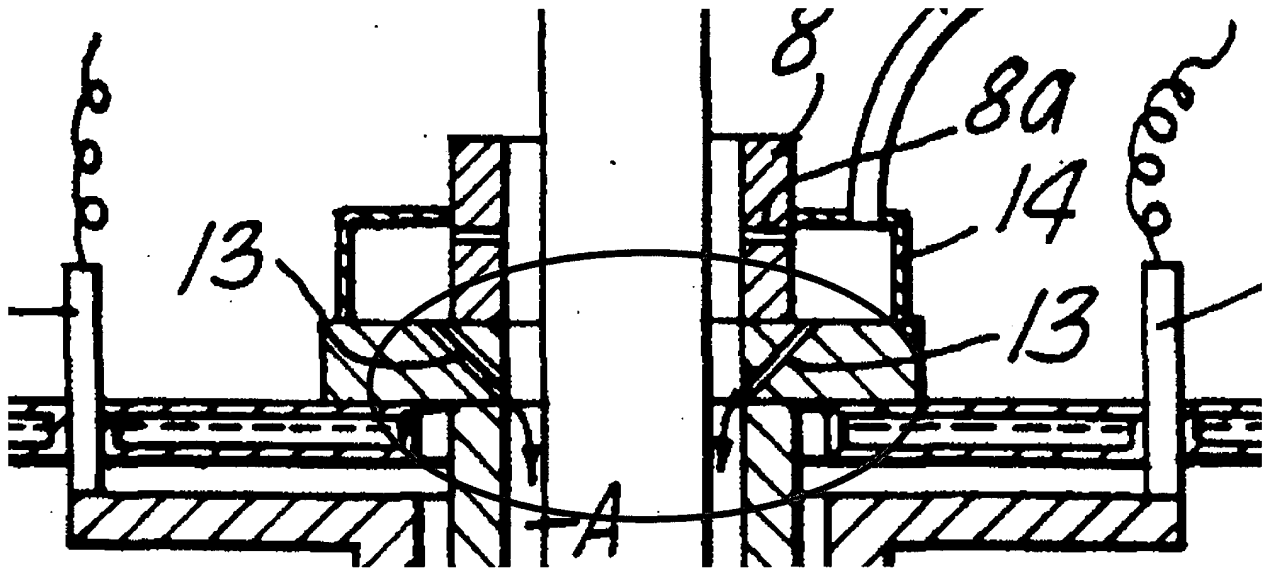
In the Final Office Action of August 15, 2008, the Examiner asserted that Harding discloses a distributor body “inherently capable” of satisfying this recitation “depending upon the operating conditions being used.” Final Office Action at 5.

A claim feature is inherently disclosed by a reference “only when the reference discloses prior art that must necessarily include the unstated limitation.” *Atofina v. Great Lakes Chem. Corp.*, 441 F.3d 991, 1000 (Fed. Cir. 2006); *see also* MPEP § 2112. As explained in Appellant’s Appeal Brief at Section VII(B)(1), the Examiner failed to point to anything in Harding or the knowledge of one of ordinary skill in the art establishing that Harding is inherently capable of meeting the recitation of claim 51 quoted above.

**a. Harding Does Not Disclose a Distributor Ring Inherently Adapted to Direct Gas to an Upper Portion of a Distribution Chamber**

Claim 51 recites a “distribution ring being adapted to . . . direct a second portion of the conditioning gas to an upper portion of the substantially annular distribution chamber to create a buffer of conditioning gas having a pressure higher than a pressure outside the drawing furnace.” As explained in Appellant’s Appeal Brief at Section VII(B)(1)(b), nothing in Harding discloses a distributor ring that is necessarily adapted to “direct a second portion of conditioning gas upward to an upper portion of a substantially annular distribution chamber.” To the contrary, Harding teaches only downwardly angled channels 13 for introducing gas into the furnace. See Harding at Fig. 1. As illustrated below in the circled portion of the excerpt from Harding’s Figure 1, Harding indicates only that gas flows in a downward direction out of the downwardly angled channels 13.





In the Final Office Action, the Examiner acknowledged that Harding only indicates gas flowing downwardly, but stated that "[t]his does not detract from the inherent capability that the apparatus can be used to direct a gas flow in an upward direction." Final Office Action at 13. The Examiner hypothesized that "one can place a vacuum above the furnace to cause gas to go up. Or one can place a pressurizing device at the bottom of the furnace. Or one can pulse gas into 15, and seal the bottom which will cause gas to flow down and then up." Final Office Action at 11. As explained in Appellant's Appeal Brief at Section VII(B)(1)(b), the Examiner's hypothetical modifications to Harding's furnace do not establish that Harding's downwardly angled channels are inherently adapted to (i.e., necessarily) "direct a second portion of conditioning gas upward to an upper portion of a substantially annular distribution chamber."

The Examiner's Answer does not cure this defect in the Final Office Action. First, the Examiner has pointed to nothing in Harding or the knowledge of one of ordinary skill in the art that would motivate a person of ordinary skill to modify Harding, in a manner

directly contradicting the express teachings of Harding, to include a vacuum above the furnace or a pressurizing device at the bottom of the furnace. Indeed, the only purpose for such a modification appears to be to satisfy claim 51's recitation to direct air to an upper portion of the distribution chamber to create a buffer of conditioning gas having a pressure higher than a pressure outside the drawing furnace, as recited in claim 51. Having identified no motivation in Harding or the knowledge of one of ordinary skill in the art to make this modification, the Examiner appears to improperly rely on the hindsight benefit of Appellant's disclosure.<sup>3</sup>

Second, the Examiner's Answer fails to establish that the proposed modification would satisfy the recitation of claim 51 quoted above. Specifically, the Examiner's Answer does not show that the proposed modifications would result in a distribution ring adapted to direct a second portion of conditioning gas to an upper portion of a distribution chamber. In the Examiner's Answer, the Examiner asserts that "one of ordinary skill is capable of making gas flow in any direction—by selective application of

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<sup>3</sup> In the Examiner's Answer, the Examiner appears to disavow the requirement to show that one of ordinary skill in the art would be motivated to place a vacuum above Harding's furnace or to place a pressurizing device below the furnace. Instead, the Examiner states that his failure to show that the proposed modification to Harding's disclosure "is no more relevant than Appellant's device unable to direct gas without an unclaimed gas-feeding source." Examiner's Answer at 19. Not only does this statement improperly disregard the requirements to establish a *prima facie* case of obviousness, it also incorrectly characterizes the Appellant's claims and specification.

In contrast to the Examiner's characterization, Appellant's specification discloses an embodiment of a distributor ring that is adapted to direct a second portion of conditioning gas upward to an upper portion of a substantially annular distribution chamber, without the need for a vacuum or pressurizing device. For example, Appellant's Figure 4 shows an upwardly angled path through the distributor ring through which gas can flow. Thus, by virtue of such an upwardly angled path, Appellant's

pressurized gas.” See Examiner’s Answer at 17. The Examiner also stated that “[g]iven an unobstructed path, gas can flow from any one location to another. Harding has such unobstructed paths.” *Id.* at 18.

But these assertions do not show that the downwardly angled channels of Harding’s distribution ring are necessarily adapted to “direct a second portion of [a] conditioning gas to an upper portion of [a] substantially annular distribution chamber,” as recited in claim 51. Indeed, Harding’s Figure 1 indicates that its downwardly angled channels direct air only in a downward direction. The only way the Examiner has identified that Harding could hypothetically direct gas to an upper portion of a distribution chamber is by connecting a vacuum to the top of the furnace or a pressurizing device to the bottom of the furnace. But even if this modification were obvious to one of ordinary skill in the art, which it is not, it would not result in the downwardly angled channels of Harding’s distribution ring directing the conditioning gas to an upper portion of the distribution chamber. Instead, the gas would be drawn to an upper portion of the distribution chamber only after exiting the distribution ring’s downwardly angled channels, and for reasons having nothing to do with the distribution ring.

Notably, the Examiner apparently relies on Harding’s same downwardly angled channels as alleged that Harding purportedly discloses claim 51’s recitation of a “distribution ring being adapted to uniformly introduce and forcedly direct a first portion of the conditioning gas into the muffle in a downward direction towards said furnace

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specification discloses a distribution ring that is adapted to direct conditioning gas to an upper portion of a distribution chamber.

body.” See Final Office Action at 5. The Examiner cites nothing in Harding or the knowledge of one of ordinary skill in the art to explain how Harding’s downwardly angled channels are necessarily adapted to both direct gas in a downward direction and an upward direction.

Accordingly, the Examiner has not shown that Harding is inherently adapted to “direct a second portion of conditioning gas upward to an upper portion of a substantially annular distribution chamber.”

**b. The Examiner’s Answer Fails to Show that Harding is Inherently Adapted to Create the Recited Buffer of Conditioning Gas**

Claim 51 also recites a distribution ring being adapted “to direct a second portion of the conditioning gas to an upper portion of the substantially annular distribution chamber to create a buffer of conditioning gas having a pressure higher than a pressure outside the drawing furnace.” The Final Office Action failed to show that Harding’s downwardly angled channels are adapted to “create a buffer of conditioning gas having a pressure higher than a pressure outside the drawing furnace.” The Examiner tacitly acknowledged that Harding’s disclosure is insufficient in this regard by contending that one could instead create the recited buffer by attaching a vacuum above the furnace or a pressurizing device at the bottom of the furnace. Final Office Action at 11. As discussed above, both the Final Office Action and the Examiner’s Answer fail to show that it would have been obvious to one of ordinary skill in the art to modify Harding’s disclosure as suggested by the Examiner.

Further, even if such a vacuum or pressurizing device were hypothetically added to Harding's furnace in the manner suggested by the Examiner, it would not create a case of *prima facie* obviousness. Specifically, even if a vacuum or pressurizing device were attached to the top or bottom of the furnace as the Examiner suggests, it would be the vacuum or pressurizing device that directed the conditioning gas to an upper portion of the distribution chamber to create the buffer, not the distribution ring as recited in claim 51. The Examiner's Answer does nothing to address this deficiency. Thus, for the same reasons discussed above in Section I(B)(1)(a), the Examiner has failed to establish a *prima facie* case of obviousness.

For at least the reasons discussed above, the Examiner has failed to establish a *prima facie* case of obviousness with respect to claim 51. Appellant therefore respectfully requests that the Board reverse the improper rejection of claim 51, as well as dependent claims 52-60, under 35 U.S.C. § 103(a).

## **2. Rejection of Claims 61-69 Under § 103(a)**

Claim 61 recites, among other things, a "distributor body including . . . at least one upwardly angled path to direct a second portion of the conditioning gas to an upper portion of the substantially annular distribution chamber to create a buffer of conditioning gas having a pressure higher than a pressure outside the drawing furnace."

As explained in Appellant's Appeal Brief at Section VII(B)(2), the Examiner's rejection appears to be based on his improper interpretation of the term "upwardly angled path" as not requiring any structure. Final Office Action at 9. As discussed above with respect to the Examiner's rejection under 35 U.S.C. § 112, ¶ 2, the express

language of claim 61 indicates that the “upwardly angled path” is a structural element included as part of the distributor body. Because the cited combination, including Harding, clearly does not disclose a distributor body having an upwardly angled path, the Examiner has not established a *prima facie* case of obviousness.

The Examiner’s Answer does not provide any further support for the rejection of claims 61-69. Instead, the Examiner states that “[a]lthough appellant’s interpretation may be reasonable, it is not the broadest reasonable. An interpretation where the ‘path’ may be delimited and/or not delimited is broader in scope.” As discussed in Appellant’s Appeal Brief and above in Section I(A), the Examiner’s interpretation of the term “upwardly angled path” recited in claim 61 as including a non-structural element is not a reasonable interpretation based on the express claim language. Accordingly, a *prima facie* case of obviousness has not been established. In light of those positions already of record, and the further explanation offered herein, Appellant respectfully submits that the Board should reverse the improper rejection of claim 61, as well as dependent claims 62-69, under 35 U.S.C. § 103(a).

**C. Conclusion**

As discussed above, the Examiner has not presented a proper rejection under 35 U.S.C. § 112, ¶ 2, nor has the Examiner presented a *prima facie* case of obviousness based on Dickinson (or Harvey) in view of Kazuya, Strackenbrock, Harding, Bair, and optionally in view of Kaiser. Appellant therefore respectfully requests that the Board reverse the Examiner’s improper claim rejections under 35 U.S.C. § 112, ¶ 2, and 35 U.S.C. § 103(a), so that all of pending claims 51-69 may be allowed.

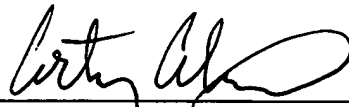
If any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this Appeal Brief, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. § 41.20 that are not expressly authorized herewith, including any fees required for an extension of time under 37 C.F.R. §§1.136 and 1.17, please charge such fees to our Deposit Account 06-0916.

Respectfully submitted,

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Dated: June 19, 2009

By:



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